



# UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE  
United States Patent and Trademark Office  
Address: COMMISSIONER FOR PATENTS  
P.O. Box 1450  
Alexandria, Virginia 22313-1450  
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/597,582	07/31/2006	Dirk Jan Broer	NL 040066	3136
24737 7590 09/09/2008 PHILIPS INTELLECTUAL PROPERTY & STANDARDS P.O. BOX 3001 BRIARCLIFF MANOR, NY 10510			EXAMINER WU, SHEAN CHIU	
			ART UNIT 1795	PAPER NUMBER
			MAIL DATE 09/09/2008	DELIVERY MODE PAPER

**Please find below and/or attached an Office communication concerning this application or proceeding.**

The time period for reply, if any, is set in the attached communication.

<b>Office Action Summary</b>	<b>Application No.</b>	<b>Applicant(s)</b>	
	10/597,582	BROER ET AL.	
	<b>Examiner</b>	<b>Art Unit</b>	
	Shean C. Wu	1795	

**-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --**

**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period **will** apply and **will** expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply **will**, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☒ Responsive to communication(s) filed on 31 July 2006.
- 2a) ☐ This action is **FINAL**.                      2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 1-10 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-10 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☒ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 31 July 2006 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. § 119**

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All    b) ☐ Some \*    c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
  2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  3. ☒ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

**Attachment(s)**

- |  |   |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892)          | 4) <input type="checkbox"/> Interview Summary (PTO-413)           |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. _____                                      |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08)          | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| Paper No(s)/Mail Date _____  | 6) <input type="checkbox"/> Other: _____                          |

### DETAILED ACTION

1. It is noted that the present invention is claimed as “a flexible foil” with functional language “is moveable by light” comprising “a dye” with functional language “is capable of changing shape when absorbing light of a predetermined wavelength” and “being anisotropically oriented near at least one major surface of the foil” and “exhibiting, transverse to the foil an asymmetric change in concentration and /or orientation, such that the foil moves when absorbing light of a predetermined wavelength” in claim 1.

Claim 2 is further claimed the dye “is capable” of “rendering the foil reversibly movable” (functional language).

Claim 3 is further limited that the dye is a “photo-isomerizable dye”.

Claim 4 is further defined that the dye is an “azo-benzene dye”.

In claim 5, the dye is dispersed in a polymerized liquid crystal.

Claim 6 is claimed a flexible foil comprising a stack of layers, which each layer comprises different concentration and/or orientation of the dye.

Claim 7 is the concentration and/or orientation of the dye changes gradually (method step? or the claimed flexible foil inherently comprising such property).

In claim 8, the dye is splay orient with certain properties.

Claim 9 is claimed a flexible foil is attached to a structure.

Claim 10 is claimed the flexible foil is a switchable valve.

From the above claimed invention. The examiner interprets the claim as “a flexible foil” comprising “a dye” with functional language (claims 1, 2, 7-10) because they are claimed as a

Art Unit: 1795

flexible foil not a method or step claim. Claims 3-5 have further limitations of the dye. Claim 6 is not clearly defined because a flexible foil comprising a stack of layers having different concentration or orientation of the dye but claim 1 only comprising a dye.

### ***Claim Rejections - 35 USC § 112***

2. Claim 6 is rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

Claim 6 is not clearly defined because a flexible foil comprising a stack of layers having different concentration or orientation of the dye but claim 1 only comprising a dye. It will be more clearly defined if the claim is rewritten as an independent form.

### ***Specification***

3. The disclosure is objected to because of the following informalities: On line 3, the “Ikeada” should be – Ikeda--.

Appropriate correction is required.

### ***Claim Rejections - 35 USC § 102***

4. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless --

- (a) the invention was known or used by others in this country, or patented or described in a printed publication in this or a foreign country, before the invention thereof by the applicant for a patent.
- (b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

Art Unit: 1795

5. Claims 1-5 and 7-10 are rejected under 35 U.S.C. 102(a)/(b) as being anticipated by Ikeda et al. (Adv, Mater.).

The reference discloses the azobenzene dyes having the trans-cis isomerization and dispersed in liquid crystal network. See the reference Figures 1-4 and first paragraph in the present specification. The reference anticipates the present invention. Although the disadvantages of the reference are discussed in the second paragraph in the present specification, however, the present claims do not exclude the limitation of the reference teachings.

6. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Shean C. Wu whose telephone number is 571-272-1393. The examiner can normally be reached on 10:30 AM to 7:00 PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Kelly Cynthia can be reached on 571-272-1526. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Art Unit: 1795

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/Shean C Wu/  
Primary Examiner, Art Unit 1795

scw